

A NEW SPECIES OF THE GENUS *TUBERFEMURUS* ZHENG (ORTHOPTERA, TETRIGOIDEA, CLADONOTIDAE) FROM CHINA

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Abstract *Tuberfemurus liboensis* sp. nov. is described. A key to the species of *Tuberfemurus* is presented. The type specimens are deposited in the Institute of Zoology, Shaanxi Normal University, Xi'an, China.

Key words Orthoptera, Tetrigoidae, Cladonotidae, *Tuberfemurus*, new species, China.

The genus *Tuberfemurus* was erected by Zheng in 1992 to accommodate *Tuberfemurus laminatus* Zheng, 1992. The second species of the genus *Tuberfemurus zhengi* Xu et Mao, 2007 was described by Xu et al. in 2007. In this paper we describe the third species of the genus.

Tuberfemurus Zheng, 1992

Tuberfemurus Zheng, 1992. Insects of the Hengduan Mountains Region, Vol. 1, 84; Liang and Zheng, 1998. Fauna Sinica, Insecta Vol. 12, Orth. Tetrigoidea, 30; Zheng, 2005. Fauna of Tetrigoidea from Western China, 25. Type species: *Tuberfemurus laminatus* Zheng, 1992.

Generic diagnosis. Body small, robust and short. Vertex wide, width of vertex 3 times width of an eye. median carinula distinct anteriorly. Frontal costa widely forked between the ocelli, the rami strongly divergent. Pronotum short, not reaching top of hind femora. Median carina of pronotum strongly elevated, wholly foliaceous, arcuate above in profile. Posterior angles of lateral lobes truncate, posterior margins of lateral lobes of pronotum with one concavity. Tegmina and hind wings absent. Upper and lower margins of middle femora undulated or with 2-3 lobe-like protuberance, hind femora generally with 2-3 tubercles on lower ridge of outside, first segment of posterior tarsi longer than the third.

Biology and ecology. Species in the genus are typical inhabitants of moist places in tropical rainforests, such as moist stony ground, on the ground between fallen leaves and on the border of streams. They feed on mosses and other forms of humus. They lay eggs in the mud mostly at the beginning of the rainy season.

Key to the species of *Tuberfemurus* Zheng

1. Antenna inserted between lower margin of eyes, with abbreviated carinae between shoulders, hind femur normal and without tubercles on lower ridge of outside *T. liboensis* sp. nov.
Antenna inserted below lower margin of eyes, without abbreviated carinae between shoulders, hind femur with 2-3 tubercles on outside 2
2. Width of vertex 3 times width of an eye, midkeel of upper side of hind femur without sawtooth, disc of pronotum with two black spots behind shoulders *T. laminatus* Zheng

Width of vertex 2.5 times width of an eye, midkeel of upper side of hind femur with 3 sawtooth, disc of pronotum brown *T. zhengi* Xu and Mao

Tuberfemurus liboensis sp. nov. (Figs. 1-6)

Description ♀. Size small, robust and short. Vertex very wide, width of vertex 2.5 times width of an eye (Fig. 1). Anterior margin of vertex straight, slightly protruding beyond eyes, median carina conspicuous (Fig. 1). In profile, vertex and frontal ridge forming obtuse round shape (Fig. 2). Frontal costa widely forked between the ocelli, the rami strongly divergent (Fig. 3). Antenna filiform, 14-segmented, length of a segment in middle about 3-4 times longer than width, inserted between lower margin of eyes (Figs. 2-3). Eyes globose. Lateral ocelli placed on middle of anterior margins of eyes (Figs. 2-3). Disc of pronotum coarsely, anterior margin of pronotum straight slightly obtuse angular (Fig. 1). Median carina of pronotum strongly elevated, wholly foliaceous, arcuate above in profile (Fig. 2). Lateral keels of prozona constricted backward, with abbreviated carinae between shoulders (Fig. 1). Caudal end of pronotum narrow, long cone-shaped, reaching the knee of hind femora (Fig. 2). Posterior angles of lateral lobes truncate (Fig. 1), posterior margins of lateral lobes of pronotum with one concavity (Fig. 2). Tegmina and hind wings absent (Fig. 2). Upper margin of anterior femora straight and lower margin undulated, Upper and lower margins of middle femora undulated (Fig. 2). Hind femur 2.5 times longer than wide, without tubercles on outside, antegenicular and genicular denticles right angle (Fig. 2). Outer side of hind tibia with 6-7 spines, inner side with 4-5 spines. Length of first segment of hind tarsi longer than third, third pulvillus longer than first and second, apices of first and second sharp, apices of third obtuse. Ovipositor narrow and long, length of upper valvulae 3.7 times its width, upper and lower valvulae with slender saw-like teeth

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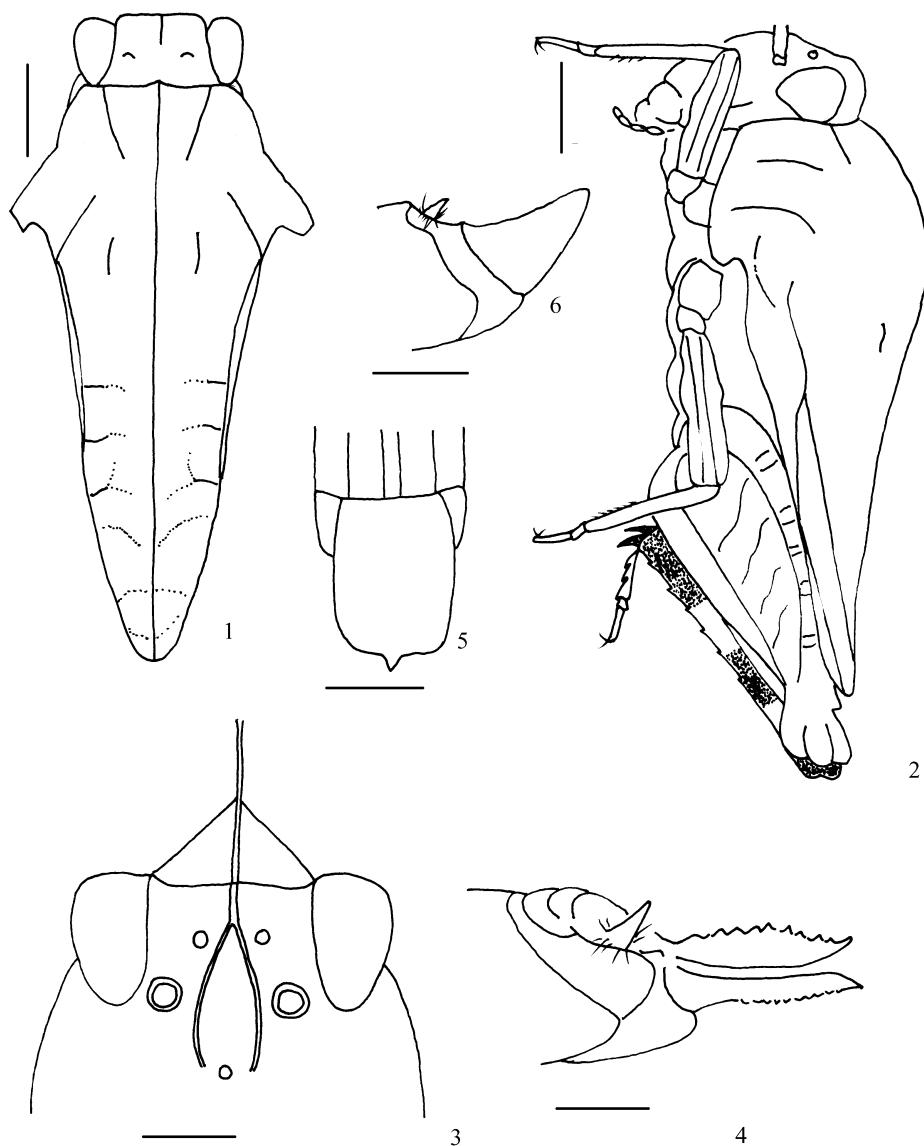
(Fig. 4). Subgenital plate longer than wide, middle of posterior margin of subgenital plate with a triangular convex (Fig. 5).

Body dark brown. Fore and middle femora and tibiae each with two distinct dark transverse spots. Hind femur dark brown. Hind tibia black, with light ring in base and middle parts (Fig. 2).

Male. Body size smaller than female, feature of structure similar to female. Subgenital plate brief coneshaped, apex sharp (Fig. 6).

Measurements. Length of body: ♂ 5.5 mm, ♀ 7.5–8.0 mm; length of pronotum: ♂ 4.5 mm, ♀ 5.5–6.0 mm; length of hind femur: ♂ 3.8 mm, ♀ 4.0–4.5 mm.

Holotype ♀, China, Guizhou Prov., Libo (Maolan) (25.4° N, 107.9° E; alt. 600 m), 2 May 2008, collected by DENG Wei An. Paratypes: 1 ♂ and 1 ♀, Same data as for holotype. Material is deposited in the Institute of Zoology, Shaanxi Normal University, Xi'an, China.



Figs 1–6. *Tuberfemurus liboensis* sp. nov. 1. Head and pronotum of female, dorsal view. 2. Body of female, lateral view. 3. Head of female, frontal view. 4. Apex of abdomen, female, lateral view. 5. Subgenital plate of female, ventral view. 6. Subgenital plate of male, lateral view. Scale bars: 1–2 = 1 mm, 3–6 = 0.5 mm.

Etymology. The new species was named after the type locality, Libo, Guizhou, China.

Remark. *Tuberfemurus liboensis* sp. nov. is similar to *T. laminatus* Zheng, 1992 and *T. zhengi* Xu and Mao, 2007, but differs in: anterior margin of vertex protruding

beyond eyes, antenna inserted between lower margin of eyes, lateral ocelli placed on middle of anterior margins of eyes, with abbreviated carinae between shoulders, and hind femur normal and without tubercles on lower ridge of outside.

Distribution. China (Guizhou).

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中国瘤股蚱属一新种记述 (直翅目, 蚱总科, 枝背蚱科)

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摘 要 记述采自贵州瘤股蚱属 *Tuberfemurus* 1 新种, 即荔波瘤股蚱 *Tuberfemurus liboensis* sp. nov., 并编制了瘤股蚱属的分种检索表。模式标本保存在陕西师范大学动物研究所标本室。

荔波瘤股蚱, 新种 *Tuberfemurus liboensis* sp. nov. (图 1~6)
新种与 *Tuberfemurus laminatus* Zheng, 1992 和 *Tuberfemurus*

zhengi Xu & Mao, 2007 近似, 主要区别: 头顶前缘略突出于复眼之前; 触角着生于复眼的下缘之间; 侧单眼位于复眼前缘的中部; 前胸背板的肩部具有 1 对短纵隆线; 后足股节正常, 下侧中隆线不具齿突。

正模 ♀, 贵州荔波 (茂兰), 600 m, 2008-05-02, 邓维安采。副模: 1 ♂, 1 ♀, 同正模。

关键词 直翅目, 蚱总科, 枝背蚱科, 瘤股蚱属, 新种, 中国.
中图分类号 Q969.26